

ADS62P42 CMOS MUX MODE –

Setup

- ADS62P42 EVM (Rev B)
- $F_s = 65 \text{ Msps}$
- $F_{in} = 16.25 \text{ MHz} (F_s/4)$
- Trigger on reference $F_s/4$ signal and monitor DB13 and CLKOUT
 - In normal mode with $F_s/4$ signal applied to CHB input, MSB should toggle at input rate ($F_s/4$)
 - In MUX mode with signal applied to CHB, CHB output should toggle at input rate and CHA output should be constant (depending on offset)
 - In MUX mode with signal applied to CHA, CHA output should toggle at input rate and CHB output should be constant (depending on offset)

Programming

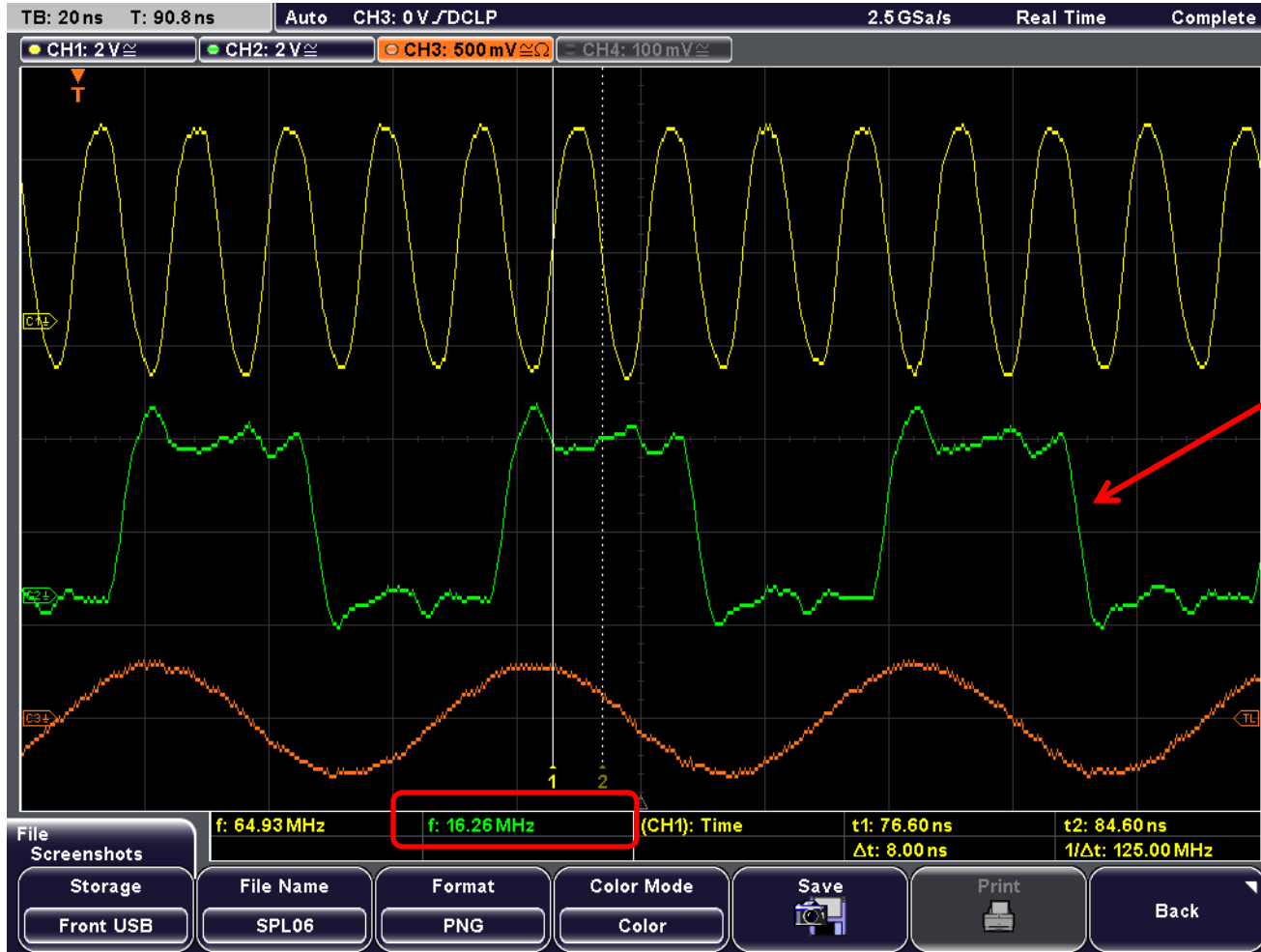
- Both parallel and serial mode programming was verified
 - Parallel programming
 - RESET held high
 - CTRL1-3 set high for CMOS MUX MODE
 - SCLK tied to GND for internal reference
 - SEN set to 2.06V for offset binary data format and CMOS outputs
 - SPI Programming
 - Reset held low
 - CTRL1-3 held low
 - Following writes performed:
 - 0x00 0x02 //Software reset
 - 0x14 0x87 //Override CTRL pins, set into CMOS MUX MODE

Normal Mode – $F_s/4$ signal applied to Ch B

CLKOUT

DB13 Output

$F_s/4$ Reference (trigger)



CHB MSB toggling at $F_s/4$ rate, with two highs, followed by two lows

MUX Mode – $F_s/4$ signal applied to Ch B

CLKOUT

DB13
Output

$F_s/4$
Reference
(trigger)



CHB lines up with the rising edge of CLKOUT

CHB MSB toggling at $F_s/4$ rate with two highs, followed by two lows

CHA MSB low

MUX Mode – $F_s/4$ signal applied to Ch A

CLKOUT

DB13 Output

$F_s/4$ Reference (trigger)



CHA lines up with the falling edge of CLKOUT

CHA MSB toggling at $F_s/4$ rate with two highs, followed by two lows

CHB MSB low

MUX Mode – No signal applied

CLKOUT

DB13
Output

Fs/4
Reference
(trigger)



Both CHA
and CHB
MSB low